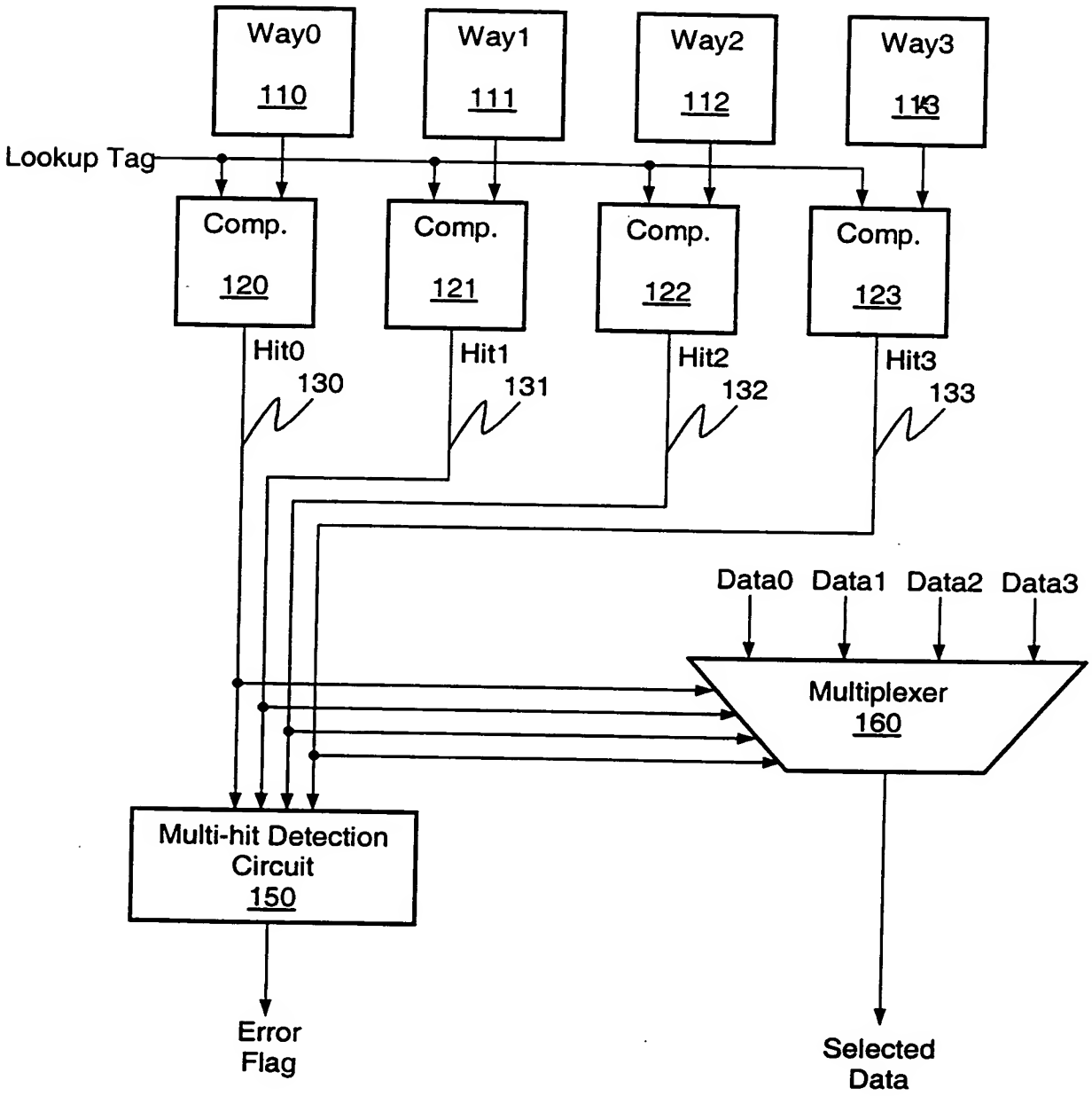

Way0
110
Way1
111
Way2
112
Way3
113
Lookup Tag
Comp.
120
Comp.
121
Comp.
122
Comp.
123
Hit0
130
Hit1
131
Hit2
132
Hit3
133
Data0
Data1
Data2
Data3
Multiplexer
160
Multi-hit Detection
Circuit
150
Error
Flag
Selected
Data

Figure 1

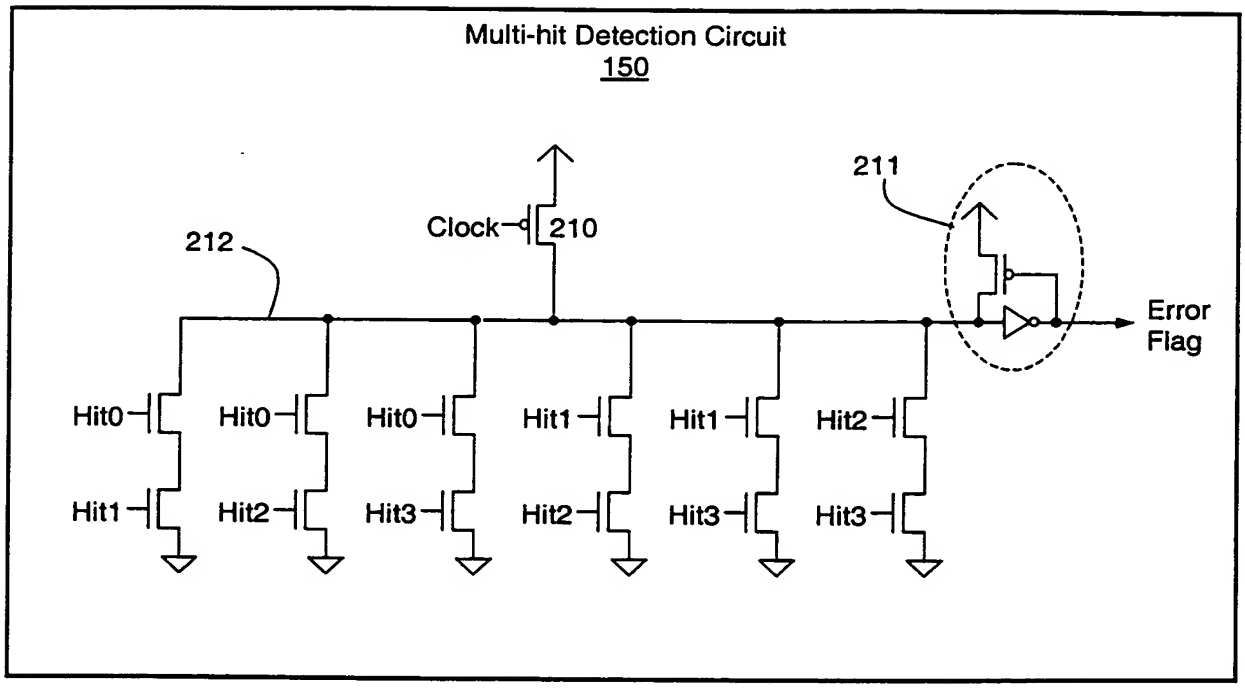
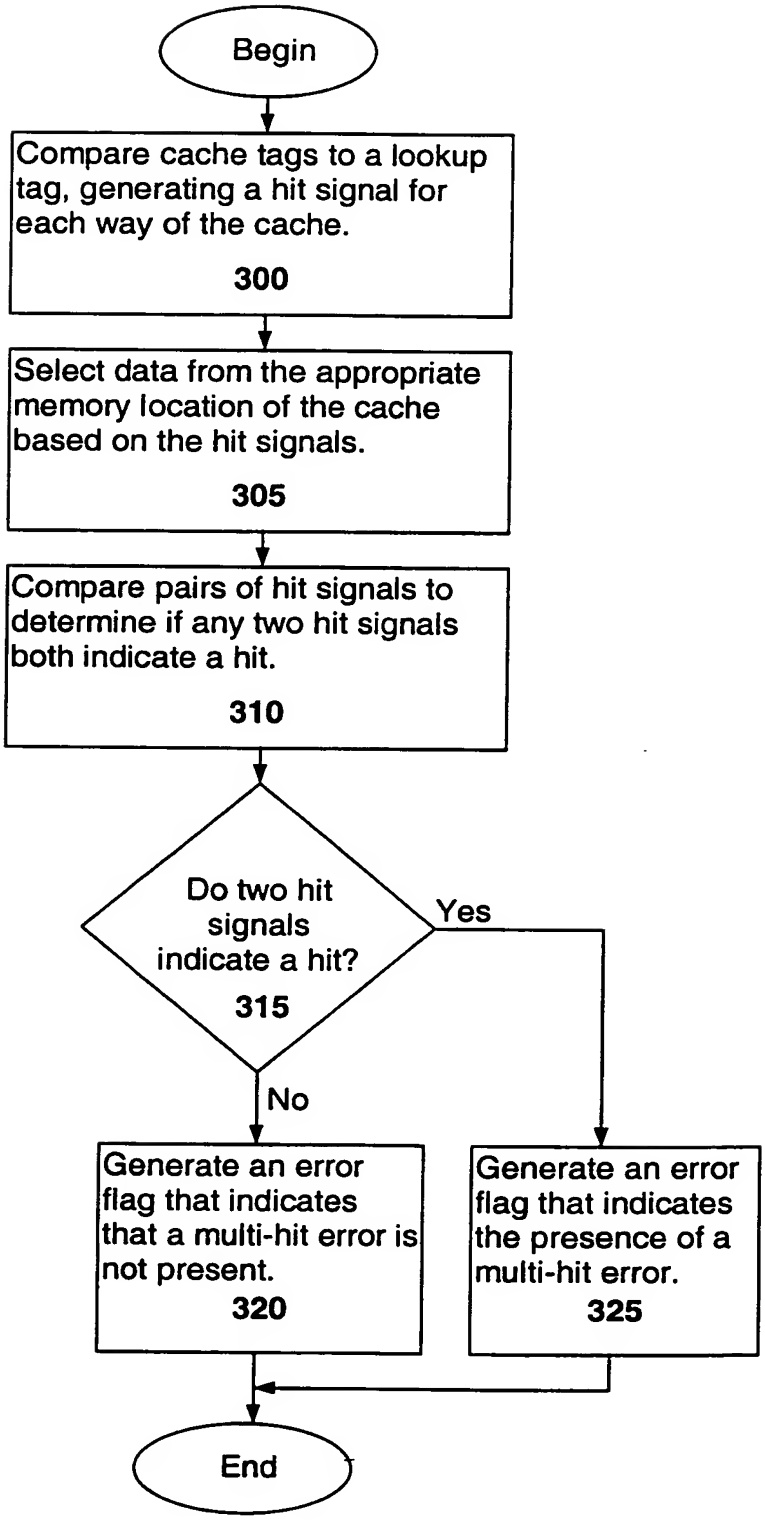

Multi-hit Detection Circuit
150
211
212
Clock
210
Error
Flag
Hit0
Hit1
Hit0
Hit2
Hit0
Hit3
Hit1
Hit2
Hit1
Hit3
Hit2
Hit3

Figure 2


Begin
Compare cache tags to a lookup tag, generating a hit signal for each way of the cache.
300
Select data from the appropriate memory location of the cache based on the hit signals.
305
Compare pairs of hit signals to determine if any two hit signals both indicate a hit.
310
Do two hit signals indicate a hit?
315
Yes
No
Generate an error flag that indicates that a multi-hit error is not present.
320
Generate an error flag that indicates the presence of a multi-hit error.
325
End

Figur 3